

Scope of Services
Transportation Impact Analysis for Carolina North Development

Part 1: Project Description

The University of North Carolina has proposed redevelopment of Horace Williams Airport as a world-class research and learning campus. This new campus is informed by the principles of sustainability and is a timely response to the surge of main campus development over the last decade. The need for this campus also reflects a trend toward public-private partnerships and economic development related to research efforts and innovations generated by the University. The development proposal suggests a long-term build-out of approximately 8 million square feet of mixed use development. Parking and transportation policies will be similar to those on the UNC- Chapel Hill Main Campus, with the goal of minimizing single occupant vehicle use by encouraging and promoting alternative modes of travel for commuting and movement during the course of the day. Redevelopment of the site will require a full range of zoning and other approvals from the Town of Chapel Hill. The University and the Town are in the process of defining a development agreement related to the project. Definition of the transportation impacts and required mitigation are a significant component of this Development Agreement. As a result, a Transportation Impact Analysis (TIA) consistent with the *Guidelines for Traffic Impact Analysis* issued by the Town of Chapel Hill on October 1, 2001, needs to be completed. An aggressive schedule for the Development Agreement requires completion and documentation of the transportation impact analysis by May 1, 2009 to inform the Town Council and the University Trustees.

In order to inform these discussions and to meet the requirements of the Town of Chapel Hill, the University and the Town have defined two development scenarios for the TIA. The first phase is approximately 800,000 square feet with a horizon year of 2015. The second phase is approximately 3.0 million square feet of total development with a horizon year of 2025. A horizon year has not been defined for an 8.0 million square foot build-out of the site. The TIA development plan and long-term plan are illustrated in **Exhibit 1**.

The remaining sections of this Supplemental Agreement define scope of services, schedule, deliverables, and compensation terms for completing the Carolina North TIA as described above.

Part 2: Scope of Services

1.0 Project Initiation, Kick-off Meeting, and Project Scoping

CONSULTANT will establish management protocols, conduct a meeting with the Town and University, and develop a scope of study including the following tasks:

- CONSULTANT will establish internal protocols, a staffing plan, and other management tools needed to complete the Carolina North TIA.
- CONSULTANT will attend a kick-off meeting with the Town of Chapel Hill and University of North Carolina to review the scope elements of the traffic study and to obtain information necessary to commence the traffic study.

CONSULTANT will document this meeting as summary meeting notes and will work with the Town of Chapel Hill to finalize a scope of study for the Carolina North TIA.

2.0 Data Collection

CONSULTANT will coordinate with its subconsultants to perform data collection at a number of locations to be identified by the Town of Chapel Hill and provided in a list to CONSULTANT. This data will be used to supplement data that has already been collected that will be provided to CONSULTANT by the Town in order to complete the TIA. For purposes of this scope, CONSULTANT assumes that the data collection for this effort will be limited to the following types of counts and locations, which correspond to a list that was provided to CONSULTANT by the Town (**Exhibit 2** includes the list of intersections) on March 20, 2008:

- Eight (8) intersection turning movement counts performed from 7am-9am, 11:30am-1:30pm, and 4pm-6pm on a typical weekday (not including Mondays or Fridays) and including pedestrian and bicycle volumes
- Seven (7) 48-hour tube counts including the collection of detailed vehicle classification counts and speed data
- Eighteen (18) locations for pedestrian and bicycle counts performed on typical "fair weather" (non raining) weekdays from 7am-7pm and will be based on instructions to be provided by the Town of Chapel Hill.

3.0 Trip Generation

CONSULTANT will determine the trip generation by mode of travel for the proposed Carolina North development for an ultimate projected build-out scenario (Phase 2) for the year 2025, as well as an interim phase scenario (Phase 1) for the year 2015. Trip generation calculations will be performed for a 3 million square foot and an interim 800,000 development program clearly defined by the Town and the University of North Carolina. Trip generation rates will be calculated based on the most suitable available data determined by the CONSULTANT, drawing from a variety of sources including:

- ITE's *Trip Generation, 8th Edition* manual and vehicle-occupancy rates to be determined for this effort,
- Building program person-densities (to the extent available),
- Data from appropriate University transportation surveys and similar existing University land uses.
- From surveys completed for other local or national comparable land use types, if deemed applicable by CONSULTANT and the Town.

CONSULTANT will develop a methodology and identify data sources for projecting peak hour person trips for each land use for the weekday daily, weekday AM, weekday midday, and weekday PM peak traffic hours. The methodology and rates to be used in the analysis will require approval from the Town. The Trip Generation will be based on the following development program scenarios:

Land Use	Short-Term Buildout	Longer Term Increment	Total TIA Development
Academic	410,000	870,000	1,280,000
Private*	180,000	520,000	700,000
Civic/Retail	10,000	60,000	70,000
Housing**	200,000	550,000	750,000
Health Care	0	200,000	200,000
Total	800,000	2,200,000	3,000,000

* Includes Innovation Center approved at 85,000 sf

** 1,000 gsf/unit results in 200 units for Short-Term and 750 total housing units

4.0 Determine Mode of Travel

In combination with the work performed for Task 3.0 and 5.0, CONSULTANT will review available data and will conduct analysis to determine appropriate mode of travel assumptions for this project. CONSULTANT anticipates reviewing multiple data sources to determine appropriate mode split assumptions for the project, including:

- Data for the Main Campus and downtown Chapel Hill,
- Available data from a limited number of other representative Triangle-region locations selected by the CONSULTANT.
- Available data from a limited number of other representative sites outside the Triangle region selected by the CONSULTANT.
- Triangle Regional Model future conditions mode splits (unclear. This is available from the TRM used for the Long Range Transit Plan, with adjustments for parking, and should be considered)
- CONSULTANT will conduct analysis of the effect of parking and transportation demand management techniques planned for Carolina North on mode of travel. To complete this analysis, CONSULTANT anticipates using the EPA Commuter 2 model using the UNC TDM program and Carolina North parking assumptions. The CONSULTANT will also review the methodology included in the Chapel Hill Long Range Transit Plan to calculate off model estimates of transit ridership resulting from UNC parking policies. Modifications to the methodology may be included. The CONSULTANT will also consider transit and pedestrian/walk commuter-shed analyses to identify likely catchment of site-population for these modes
- The CONSULTANT will review other representative parking and transportation demand management plans within its possession.

CONSULTANT will develop up to three modes of travel scenarios representing different levels of on-site parking and requiring different transit services. These scenarios will be used to conduct sensitivity analyses of build conditions and roadway mitigation in Task 11.0

CONSULTANT will determine other related person trip adjustments to allow person-trip generation by mode used in the following steps:

- Internal trip capture within the site (if applicable).
- Trips to the UNC Main Campus satisfied by envisioned transportation services
- Pass-by/diverted link trips (if any)

5.0 Determine Trip Distribution/Assignment

CONSULTANT will determine the trip distribution for the proposed development for the peak hour periods to be studied in the TIA. CONSULTANT will evaluate the applicability of different trip distributions for different uses within the project at different project phases based on the availability of data and expected similarities/differences between different populations at Carolina North. CONSULTANT will minimize the number of distributions used, if supported by the available data. The trip distributions to be developed and used for this effort will be limited to the following populations:

- Site employees (2015/2025) assignment to pedestrian/bicycle (within the site and to nearby areas), transit services and roadway networks
- Site residents (2015/2015) assignment to pedestrian/bicycle (within the site and to nearby areas), transit services and roadway networks
- Site visitors (2015/2025) assignment to pedestrian/bicycle (within the site and to nearby areas), transit services and roadway networks

CONSULTANT will base the trip generation on a combination of methodologies including the use of the regional model, existing traffic patterns, and geo-coded information of UNC-Chapel Hill employees to be provided by the Town. Using the trip distributions determined for different uses and project phases, CONSULTANT will distribute trips to the transportation network serving the site. The final distributions to be used in the traffic impact analysis and the supporting methodology will require approval from the Town.

6.0 Define Study Area

The Town of Chapel Hill will provide CONSULTANT with a full list of intersections, roadway segments and pedestrian and bicycle count locations that are to initially be considered for the TIA study area. CONSULTANT has used the intersection list provided to CONSULTANT via email on March 20, 2009 (**Attachment 2**) to define the budget for this effort changes to this list may require modification of this agreement.

Using count data provided by the Town and collected by CONSULTANT, and the trip generation and distribution/assignment determined in previous tasks, CONSULTANT will follow the Town's criteria for defining the study area to be analyzed in the traffic impact study, as defined in the Town's *Guidelines for Traffic Impact Analysis*, dated October 1, 2001. The CONSULTANT will apply these criteria to both the 800,000 square foot and 3,000,000 square foot development scenarios to determine an appropriate study area for each phase. CONSULTANT's analysis of the Town's criteria will be summarized in a memorandum for review by the Town. The Town will confirm the final locations to be included in the study prior to CONSULTANT performing Existing, No Build, or Build traffic capacity analyses which needs to occur by April 18, 2009 in order to maintain the project schedule. Additional study may be required in the Fall of 2009 to account for locations where data collection and other analyses have not been collected or where older count data has been used due to the schedule requirements of this study.

7.0 Perform Existing and No-Build Traffic Analysis

CONSULTANT will perform traffic capacity analysis of existing traffic conditions in the year 2009, and No-Build traffic conditions for the years 2015 and 2025 during the weekday AM, weekday midday, and weekday PM peak traffic hours. The traffic analysis will be performed according to the Town's *Guidelines for Traffic Impact Analysis*. For purposes of this scope, CONSULTANT assumes that the analysis will be limited to the intersections and count locations listed in Attachment 1 to this scope of services.

- In order to evaluate the year 2015 and 2025 No-Build conditions, the Town will provide CONSULTANT with a list of all committed roadway improvements and developments for each of the analysis years that may have an impact on the traffic analysis.
- Background traffic growth will be derived either from the regional model with adjustments to eliminate any double counting, or based on historic traffic counts for roadway facilities located in the Town. The final traffic growth rate or rates to be used at locations in the traffic impact analysis will require approval from the Town and the University.
- CONSULTANT will use the Town-supplied Synchro networks to complete these analyses. Additional study locations will either be added to this network or modeled separately.
- Capacity analysis will be performed using Synchro 7.0 with results based on the HCM report output for signalized and unsignalized intersections.
- Roadway segments will be analyzed using HCS 2000.
- In the interest of meeting the desired project schedule, CONSULTANT will NOT identify any roadway improvements that would be required to mitigate Existing or No-Build traffic conditions to acceptable levels of service.

8.0 Perform Existing and No-Build Transit Analysis

CONSULTANT will review the transit operations within the study area include the Chapel Hill Transit and Triangle routes serving the site. CONSULTANT will also review the Chapel Hill/Durham components of the region's Long Range Transportation Plan (LRTP) and Chapel Hill Transit's Long Range Transit Plan to identify improvements to transit service that may be in place for the 2015 and 2025 horizon years. CONSULTANT will analyze or project (for the ridership) the following attributes of Existing and No-Build transit networks:

- System coverage and headway adequacy
- Route capacity

9.0 Assess Pedestrian and Bicycle Conditions

CONSULTANT will summarize the existing pedestrian and bicycle counts on diagrams and tables as appropriate, and provide a description of existing and planned pedestrian facilities in the vicinity of the project, as identified in the list of locations to be provided by the Town. CONSULTANT will also review relevant reports and studies to be provided by the Town. CONSULTANT will identify deficiencies of the pedestrian or bicycle facilities in the vicinity of the site based on the information collected and analyzed as part of this effort. CONSULTANT will also identify future anticipated or needed pedestrian or bicycle facility improvements that would be needed to accommodate the project.

10.0 Perform Build Traffic Impact Analysis

CONSULTANT will perform a traffic capacity analysis of Build-scenario traffic conditions for two phases of the proposed development in the years 2015 and 2025 during the weekday AM, weekday midday, and weekday PM peak traffic hours. The two Build condition scenarios will include analysis of all locations studied for the Existing and No-Build scenarios as well as the proposed access points to the site. For purposes of this scope, CONSULTANT assumes that the analysis will be limited to the intersections and count locations listed in Attachment 1 to this scope of services plus site access locations. The software tools to be used for the analysis will be as specified for the Existing and No-Build traffic analysis task.

The Build conditions analysis and identification of mitigation measures will follow the Town's *Guidelines for Traffic Impact Analysis* procedures. Order of magnitude requirements for and cost estimates of potential roadway mitigation will be development.

As part of this effort, CONSULTANT will include Build traffic capacity analysis sensitivity analyses for a maximum of three (3) different mode-split scenarios. These three mode-split scenarios will be applied to both the 2015 and 2025 Build conditions and analysis results, impacts, and required mitigation measures will be identified. CONSULTANT will establish a baseline assumption for the Build conditions and will test whether mitigation continues to be needed at critical locations based on potential mode split scenarios. Full analyses are not expected for these supplemental analyses.

11.0 Traffic Safety Analysis

CONSULTANT will review and summarize traffic safety reports and data provided by the town including a Highway Safety Research Center (HSRC) report, the MLK Pedestrian Safety Study, and other available reports and data. Additional traffic safety analysis using NCDOT data and field investigations of safety issues may require subsequent study in the Fall of 2009.

12.0 Traffic Calming Analysis

Based on the traffic generation and distribution, and in consultation with the Town, CONSULTANT will analyze and provide general recommendations for a maximum of 20 locations identified by the Town for potential traffic calming. Recommendations for traffic calming will consider the implications of the three (3) mode-split scenarios and the potential influence on the vehicle trip distribution for the project. This task assumes that CONSULTANT will meet with and obtain information from two (2) affected neighborhood committees in order to determine the appropriate traffic calming measures proposed at each location

13.0 Perform Build Transit Impact Analysis

CONSULTANT will assign project-generated ridership to existing and planned Chapel Hill transit services to the project site. CONSULTANT will analyze the impacts to these services and will identify service modifications to include:

- Capacity enhancement
- Service quality improvement
- Geographic coverage
- Provision of additional park and ride facilities
- Expanded regional transit services
- Implementation of the draft recommendations of the Chapel Hill Long Range Transit Plan

Order of magnitude requirements and costs for potential transit modifications will be development.

CONSULTANT will include Build transit sensitivity analyses for a maximum of three (3) different mode-split scenarios. These three mode-split scenarios will be applied to both the 2015 and 2025 Build conditions. CONSULTANT will establish a baseline assumption for the Build conditions and will test whether transit adjustments are needed based on potential mode split scenarios. Full analyses are not expected for these supplemental analyses.

14.0 Review of Internal Street Network

CONSULTANT will review the preliminary plans for the internal street network for the 800,000 and 3.0 million square foot build-outs that are the subject of this TIA. CONSULTANT will also review the Master Plan transportation framework to be provided to CONSULTANT by UNC and the Town with respect to the siting of parking, design of facilities, the location of transit facilities/stops, and the pedestrian and bicycle network within the site. Detailed analysis of on-site infrastructure, suitable for detailed design review, will not be conducted as part of this scope.

15.0 Prepare Draft Report

CONSULTANT will submit a draft report for review by the Town by May 1, 2009. 20 copies will be submitted to the Town. The report will document the study process, methodologies, findings and recommendations. The format of the report will generally follow the format outlined in the Town's Guidelines for Traffic Impact Analysis (to the extent applicable to this project). To the extent possible given the schedule, CONSULTANT will provide sections of the report to the Town for review and comment before they are assembled into the Draft Report.

16.0 Prepare Final Report

CONSULTANT also anticipates addressing questions and concerns and preparing a Final Report. CONSULTANT will provide a "draft" Final Report to the Town that addresses the comments on the Draft Report. After final review by the Town, CONSULTANT will complete the Final Report and will provide 20 copies to the Town.

17.0 Project Management and Coordination

CONSULTANT has programmed time for overall management and coordination of the Carolina North TIA. This management and coordination covers project administration, informal coordination with the Town, the University of North Carolina, and other agencies, and coordination of CONSULTANT's work efforts.

18.0 Meso-Scale Air Quality/Carbon Emissions Implications (CONTINGENT TASK)

The CONSULTANT has included a contingency budget to address the air quality and GHG emissions generated by the Carolina North. A specific scope has not been defined at this time pending resolution of project requirements given the ongoing effort by the University to address these issues on a University-wide basis. Should this task be required, a specific scope will be developed for approval by the TOWN and work will not begin without approval of this scope.

19.0 Meetings Allowance

For purposes of this scope, CONSULTANT assumes its attendance at a maximum of 16 meetings or presentations related to this effort. CONSULTANT has estimated four (4) hours per meeting for each of its staff and we assume that two (2) staff members will attend each meeting. CONSULTANT is available to attend additional meetings with a commensurate modification of this agreement.

20.0 Direct Expense Contingency

CONSULTANT has included a contingency for direct expenses as referenced in the Master Agreement. These expenses will be billed as incurred, plus 10-percent for administration, up to the budget included in Part 5 of this Supplemental Agreement.



EXHIBIT 1 – TIA DEVELOPMENT PLAN
(3 million square foot development program)

Carolina North TIA
Preliminary Study Area Intersections

Int ID	Intersection Full Name	Traffic Control	Data Availability
1	MLK Blvd (NC 86) at Whitfield Rd (SR 1730)	Traffic Signal	Town Database
2	MLK Blvd (NC 86) at I-40 WB Ramps	Traffic Signal	Fall 2008
3	MLK Blvd (NC 86) at I-40 EB Ramps	Traffic Signal	Fall 2008
4	MLK Blvd (NC 86) at Eubanks Rd (SR 1727)	Traffic Signal	Fall 2008
5	MLK Blvd (NC 86) at Perkins Dr	Traffic Signal	Fall 2008
6	MLK Blvd (NC 86) at Weaver Dairy Rd (SR 1733)	Traffic Signal	Fall 2008
7	MLK Blvd (NC 86) at Westminster Dr	Traffic Signal	Fall 2008
8	MLK Blvd (NC 86) at Homestead Rd (SR 1777)	Traffic Signal	Fall 2008
9	MLK Blvd (NC 86) at Northfield Dr	Traffic Signal	Fall 2008
10	MLK Blvd (NC 86) at Piney Mountain Rd/Municipal Dr	Traffic Signal	Fall 2008
11	MLK Blvd (NC 86) at N Estes Dr (SR 1750)	Traffic Signal	Fall 2008
12	MLK Blvd (NC 86) at Airport Dr	Stop Sign	Fall 2008
13	MLK Blvd (NC 86) at Hillsborough St/Umstead Dr	Traffic Signal	Fall 2008
14	Columbia St (NC 86) at Rosemary St (NC 54)	Traffic Signal	Main Campus TIA
15	Columbia St (NC 86) at Ranklin St (NC 50)	Traffic Signal	Main Campus TIA
16	Columbia St (NC 86) at Cameron Ave	Traffic Signal	Main Campus TIA
17	Pittsboro St (NC 86) at Cameron Ave	Traffic Signal	Main Campus TIA
18	Columbia St (NC 86) at South Rd (NC 54)	Traffic Signal	Main Campus TIA
19	Pittsboro St (NC 86) at McCauley St	Traffic Signal	Main Campus TIA
20	Columbia St (NC 86) at Manning Dr	Traffic Signal	Main Campus TIA
21	Columbia St (NC 86) at Mason Farm Rd	Traffic Signal	Main Campus TIA
22	Columbia St (NC 86) at NC 54 WB Ramps	Traffic Signal	Main Campus TIA
23	Columbia St (US 15-501) at NC 54 EB Ramps	Traffic Signal	Main Campus TIA
24	US 15-501 at Mt Carmel Church Rd (SR 1008)/Culbreth Rd (SR 1994)	Traffic Signal	Main Campus TIA
25	Homestead Rd (SR 1777) at Weaver Dairy Rd Ext	Stop Sign	Fall 2008
26	Homestead Rd (SR 1777) at Seawell School Rd (SR 1843)	Traffic Signal	Fall 2008
27	Homestead Rd (SR 1777) at Rodgers Rd (SR 1729)	Stop Sign	None
28	Homestead Rd (SR 1777) at High School Rd (SR 1834)	Traffic Signal	None
29	Old NC 86 (SR 1009) at Homestead Rd (SR 1777)/Dairyland Rd (SR 1104)	Traffic Signal	Fall 2008
30	Seawell School Rd (SR 1843) at High School Rd (SR 2044)	Stop Sign	None
31	Estes Dr Ext (SR 1780) at Airport Dr	Stop Sign	Fall 2008
32	Estes Dr Ext (SR 1780) at Seawell School Rd (SR 1843)	Traffic Signal	Fall 2008
33	Estes Dr Ext (SR 1780) at N. Greensboro St/Old Fayetteville Rd (SR 1107)	Traffic Signal	Fall 2008
34	Old NC 86 (SR 1009) at Hillsborough Rd (SR 1009)	Traffic Signal	None
35	NC 54 at W Main St (SR 1010)	Traffic Signal	Town Database
36	W Main St (SR 1010) at Jones Ferry Rd (SR 1005)	Traffic Signal	Town Database
37	N Greensboro St at Weaver St	Traffic Signal	Town Database
38	N Greensboro St at W Main St	Traffic Signal	Town Database
39	S Greensboro St at Merritt Mill Rd	Traffic Signal	Town Database
40	Hillsborough St at E. Rosemary St	Traffic Signal	None
41	Hillsborough St at E. Franklin St	Traffic Signal	Main Campus TIA
42	N Estes Dr (ST 1750) at Curtis Rd/Caswell Rd	Traffic Signal	Fall 2008
43	N Estes Dr (ST 1750) at E Franklin St	Traffic Signal	Fall 2008
44	E Franklin St at Elliott Rd	Traffic Signal	None
45	E Franklin St at Ephesus Church Rd	Traffic Signal	None
46	US 15-501 at Erwin Rd (SR 1734)/Europa Dr	Traffic Signal (Super Street)	Main Campus TIA
47	US 15-501 at Sage Rd (SR 1741)/Old Durham Rd	Traffic Signal	Main Campus TIA
48	US 15-501 at Eastowne Dr	Traffic Signal	Main Campus TIA
49	US 15-501 at Eastowne Dr/Lakeview Dr (SR 1124)	Traffic Signal	Main Campus TIA
50	US 15-501 at I-40 EB Ramps	Traffic Signal	Town Database
51	US 15-501 at I-40 WB Ramps	Traffic Signal	Town Database
52	Weaver Dairy Rd (SR 1733) at Kingston Dr/McClamroch Cir	Traffic Signal	None

* For these intersections that are also part of the Main Campus TIA, Fall 2007 counts are available; they are scheduled to be re-counted in Fall 2009

Eliminated Intersections from the Study Area on March 19/20, 2009

Int ID	Intersection Full Name	Traffic Control	Data Availability
1	E Main St at E Weaver St - ELIMINATED FROM STUDY ON MARCH 19, 2009	Traffic Signal	Town Database
2	E Main St at Lloyd St - ELIMINATED FROM STUDY ON MARCH 19, 2009	Traffic Signal	Town Database
3	E Main St at Rosemary St - ELIMINATED FROM STUDY ON MARCH 19, 2009	Traffic Signal	Town Database
4	Elliot Rd at Curtis Rd - ELIMINATED FROM STUDY ON MARCH 20, 2009	Stop Sign	None
5	Weaver Dairy Rd (SR 1733) at Silo Dr/Carol Woods - ELIMINATED FROM STUDY ON MARCH 19, 2009	Traffic Signal	None
6	Weaver Dairy Rd (SR 1733) at Unknown Office Dr - ELIMINATED FROM STUDY ON MARCH 19, 2009	Traffic Signal	None
7	Weaver Dairy Rd (SR 1733) at Erwin Rd (SR 1734) - ELIMINATED FROM STUDY ON MARCH 20, 2009	Traffic Signal	None
8	Erwin Rd (SR 1734) at Sage Rd (SR 1741) - ELIMINATED FROM STUDY ON MARCH 20, 2009	Traffic Signal	None

Carolina North TIA

Study Area 48-Hour Traffic Volume Count Locations

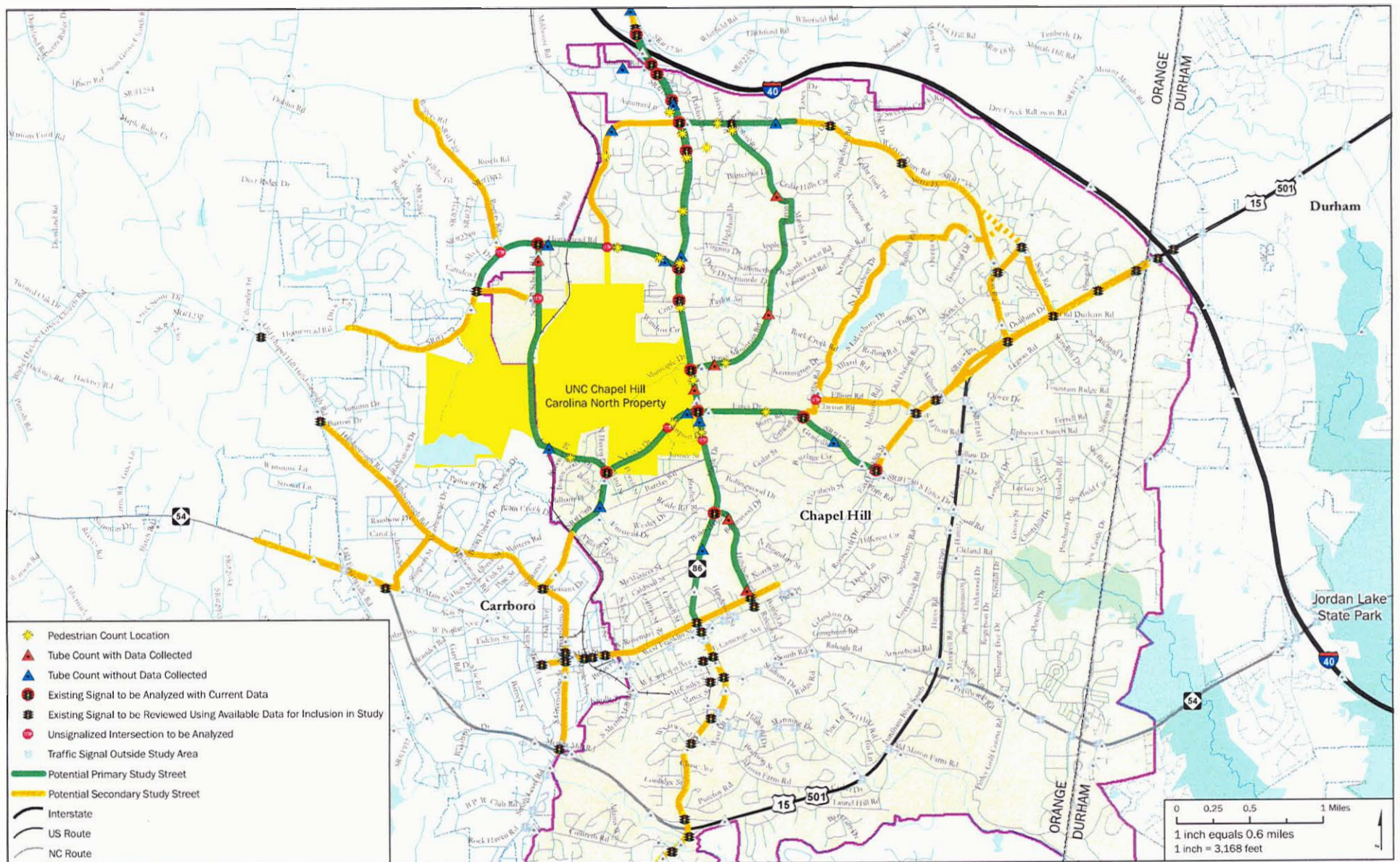
ID	Roadway Section	Data Availability
1	NC 86 between Clyde Rd and Hilltop MHP	Fall 2008
2	Eubanks Rd between Northwood Dr and MLK (NC 86)	Fall 2008
3	MLK (NC 86) between Perkins Dr and Northwood Dr	Fall 2008
4	Weaver Dairy Rd Ext between Lonebrook and MLK (NC 86)	Fall 2008
5	Weaver Dairy Rd between Timberlyne Rd and Weatherstone Dr	Fall 2008
6	Seawell School Rd between Homestead Rd and Savannah Terrace	Fall 2008
7	Homestead Rd between Brookstone Dr and MLK (NC 86)	Fall 2008
8	MLK (NC 86) between Dixie Ln and Homestead Rd	Fall 2008
9	Seawell School Rd between Hanover Plance and Railroad Xing 0.1 mi to the West	Fall 2008
10	Estes Dr Ext Seawell School Rd and Umstead Rd	Fall 2008
11	N. Estes Dr between MLK (NC 86) and UNC Facilities Dept. Driveway to the west	Fall 2008
12	MLK (NC 86) between N. Estes Dr and YMCA Driveway to the south	Fall 2008
13	N. Estes Dr between Halifax Rd and Granville Rd	Fall 2008
14	MLK (NC 86) between Bolin Heights and E. Longview St	Fall 2008
15	Hillsborough St between North St and Rosemary St	None
16	Hillsborough St between Bolinwood Dr and MLK (NC 86)	None
17	MLK (NC 86) between Piney Mountain Rd and N. Estes Dr	None
18	Piney Mountain Rod between Timber Hollow Ct and Woodshire Ln	None
19	Piney Mountain Rod between Lake Ellen Dr and Oosting Dr	None
20	Kingston Dr between Balsam Ct and Kingston Ct	None
21	Homestead Rd between Seawell School Rd and Heartstone Ln	None

* Segments 6 and 21 should switch color on the map to match their data availability

Study Area Pedestrian and Bike Count Locations

ID	Pedestrian/Bike Location	Data Availability
1	MLK Blvd/Northwood Dr	Town MRC
2	MLK Blvd/Weaver Dairy Rd	Town MRC
3	MLK Blvd/Westminster Dr	Town MRC
4	MLK Blvd/Stateright Dr	Town MRC
5	MLK Blvd/Homestead Rd	Town MRC
6	MLK Blvd/Northfield Dr	Town MRC
7	MLK Blvd/Shadow Dr	Town MRC
8	MLK Blvd/YMCA Driveway	Town MRC
9	Estes Dr/Phillips Middle School	Town MRC
10	Estes Dr/Horace Williams Airport Driveway	Town MRC
11	Weaver Dairy Rd/Sunrise Ln	Town MRC
12	Weaver Dairy Rd/Kingston Dr	Town MRC
13	Weaver Dairy Rd/Perkins Dr/Banks Dr	Town MRC
14	Homestead Rd West of Brookstone Apts	Town MRC
15	Homestead Road east of Weaver Dairy Road	Town MRC
16	Piney Mountain Rd east of Woodshire Ln	Town MRC
17	Seawell School Road and Hanover Pl	Town MRC
18	Seawell School Rd/High School Rd	Town MRC

* For all the ped/bike locations, 2005 data are available from the Town Mobility Report Card (MRC).



Study Locations for Traffic Impact Analysis

UNC - Chapel Hill Carolina North
9 May 2009